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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yibei Ling

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EXAMINER

DUONG, CHRISTINE T

ART UNIT

PAPER NUMBER

2616

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/815,605	Applicant(s) LING ET AL.	
	Examiner CHRISTINE DUONG	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-9 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This is in response to the Applicant's arguments and amendments filed on 05 February 2008 in which claims 1-9 are currently pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al. further in view of Decker et al. (PG Pub US 2001/0038610 A1)

Regarding **Claim 1**, Zhang et al. discloses a telecommunications system architecture (**Fig. 1**) comprising:

at least one access network (**the following elements either alone or in combination of wireless network 108 and wireless network component 114 or 116, Fig. 1**);

a mobile host located in said access network (**wireless host 118 or 120, Fig. 1**);
a backbone network (**the following elements either alone or in combination of wired network 106, wireless network 108 and gateway 110 or 112, Fig. 1**),
including at least one application server (**host 102 or 104, Fig. 1; where "one or more wireline hosts 102, 104 is a content server" [0024] Lines 4-5**);

an information gateway located in said backbone network (**gateway 110 or 112, Fig. 1 where “network gateway 110, 112 is an intermediate network node coupling the wireline communication link with a wireless communication link”, [0023] Liens 1-3**); and

an application-layer, a throughput estimator residing on said information gateway (**“the innovative heterogeneous network transport layer protocol is designed to enable network elements (e.g., the gateway) to efficiently and accurately distinguish transmission problems occurring in any of a plurality of network components, e.g., a wireless network component, a wireline network component, and the like”, [0058] Lines 1-6 and for example, congestion control parameter described in [0060] and “the available bandwidth is estimated in the content server media component (e.g., 208) based on the periodic issuance of congestion control parameters by gateway 400. Considering the delivery requirements of the content to be delivery (e.g., multimedia), the content server media component smoothly adjusts the transmission rate based, at least in part, on the adjustment interval, packet loss ratio, and the bandwidth variations” [0054]**);

wherein said mobile host communicates with said application server through said information gateway (**“wireless host 118 issues a request for content via wireless communication channel 114, gateway 110, wireless network 108, wireline network 106 to host 102”, [0066] Lines 6-9**) and said throughput estimator provides information useful in optimizing download rate to said mobile host (**“congestion control parameter: issued by the gateway to one or more wireline component network**

elements to throttle the delivery of content in accordance with current congestion statistics”, [0060] Lines 1-4).

However, Zhang et al. fails to specifically disclose an information gateway acting as a proxy for different types of information distribution.

Nevertheless, Decker et al. discloses **“if the available bandwidth is reduced in a wireless communication link, for example due to changed selection of a codex for coding audio data, by requesting a reduction in the magnitude of HTML data at the multimedia conversion proxy, by suppressing voice transmission, by suppressing the possibility of exchanging data in accordance with the HTTP protocol or the WAP protocol, an adaptation of the available transmission resources in the application layer to the requirements of the data to be transmitted is achieved” (Decker et al. [0110]).**

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have an information gateway act as a proxy for different types of information distribution because **“The HTTP proxy maps data according to the HTML format to the requirements or capabilities corresponding to the respective communication device to which the data are to be sent” (Decker et al. [0086]).**

Regarding **Claim 2**, Zhang et al. and Decker et al. discloses everything claimed as applied above (see *Claim 1*). In addition, Zhang et al. discloses said throughput estimator is selected from the group consisting of an ICMP-based throughput estimator, a HTTP-based throughput estimator, a TCP trace throughput estimator, and a SNMP-

based throughput estimator (**“utilizing a standard network transport protocol (e.g., TCP, UDP, etc.”**, [0067] Lines 9-10).

Regarding **Claim 3**, Zhang et al. and Decker et al. discloses everything claimed as applied above (see *Claim 1*). In addition, Zhang et al. discloses said throughput estimator is a passive throughput estimator (**“If, during the course of transmission, one of the elements identifies an unacceptable transmission condition 614, it is reported to the gateway 110. In response, gateway 110 distinguishes transmission problems arising in a wireline network component of the heterogeneous network from those occurring in the wireless network component based on the control parameter received, and selectively invokes a network component-specific remedy to alleviate the transmission problem, block 616”**, [0069] Lines 1-9).

Regarding **Claim 4**, Zhang et al. and Decker et al. discloses everything claimed as applied above (see *Claim 1*). In addition, Zhang et al. discloses said throughput estimator is an active throughput estimator (**“enable a gateway to accurately identify the source of transmission problems, and to effect a network component-specific resolution to the identified problem”**, [0059] Lines 4-7).

Allowable Subject Matter

3. **Claims 5-9** are allowed. The following is the examiner's statement of reasons for allowance:

A comprehensive search of the prior art of record failed to teach, either alone or in combination, a method of optimizing download rate to a mobile host from an

application server in a telecommunications network as recited in Claim 5 and in combination with other elements of the claim.

The closest prior art to the invention of Claims 5-9 is Zhang et al. Zhang et al. teaches communication through a gateway between a mobile host and application server and adjusting download rate depending on a measured throughput rate. However, Zhang et al. fails to teach that the measured throughput rate is calculated using $R(\tau) = M / \Delta t$, wherein $R(\tau)$ is the measured throughput rate, Δt is a measurement time interval, τ is a current measurement time and M is a number of messages that arrive during the time interval. Additionally, Zhang et al. fails to teach that the estimated throughput rate for an application flow is calculated using $R(\tau) = \alpha(\tau)R(\tau) + (1 - \alpha(\tau))E[R_{t-\Delta t}]$, wherein $E[R_{t-\Delta t}]$ is the estimated value and $\alpha(\tau)$ is the weight value.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

4. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Duong whose telephone number is (571) 270-1664. The examiner can normally be reached on Monday - Friday: 830 AM-6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/
Supervisory Patent Examiner,
Art Unit 2616

/Christine Duong/
Examiner, Art Unit 2616
04/15/2008